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| 10/035,494 | 11/08/2001 | Ian Dawes | 2545-000011 | 3319 |
| 27572 | 7590 | 08/09/2005 | EXAMINER | |
| HARNESS, DICKEY & PIERCE, P.L.C. | | | SINGH, DALZID E | |
| P.O. BOX 828 | | | ART UNIT | |
| BLOOMFIELD HILLS, MI 48303 | | | PAPER NUMBER | |
| | | | 2633 | |

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/035,494

Applicant(s)

DAWES ET AL.

Examiner

Dalzid Singh

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2005.
2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-12,14-16 and 18 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-3,5-12,14-16 and 18 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 26 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11 March 2002.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5-12, 14-16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huber et al (US Patent No. 6,661,973) in view of Barry et al (US Patent No. 6,433,903).

Regarding claim 1, Huber et al disclose optical transmission system, as shown in Fig. 1, comprising:

an optical transport line (15) terminating at the network element (24), the optical transport line operable to carry an optical system signal therein;

a demultiplexing component (20) connected to the optical transport line, the demultiplexing component operable to receive the optical system signal and separate the optical system signal into a plurality of intermediate optical signals (see col. 6, lines 63-67); and

a plurality of optical fibers connected to the demultiplexing component (Fig. 1, shows plurality of optical fiber connected to the demultiplexing component to carry the plurality of the optical signal), each of the optical fibers operable to carry a local oscillator wavelength and one of the plurality of intermediate optical signals therein, the local oscillator wavelength being transmitted at a wavelength different than the

wavelength range used to transmit the intermediate optical signal (in col. 5, lines 19-25 and lines 32-42, Huber et al show wavelength of the local oscillator (λ_{LO}) is different than the wavelength of the information signal (λ_i)).

Huber et al disclose that the optical fiber connected to the demultiplexer is operable to carry optical signal such as local oscillator signal and differ from the claimed invention in that Huber et al do not specifically disclose that the fiber is operable to carry an optical management signal. However, in optical communication system it is well known that optical fiber carry optical management signal. Barry et al is cited to show such well known concept. In col. 8, lines 40-51, Barry et al teach the addition of optical management signal to the optical fiber. Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide optical management, as taught by Barry et al, to the optical fiber in place of the local oscillator wavelength. One of ordinary skill in the art would have been motivated to do such in order to monitor system's parameter.

Regarding claims 2 and 10, as discussed above, Huber et al disclose that the optical management signal (λ_{LO}) is transmitted at a wavelength that is spectrally separated from the transmission wavelength range for the plurality of intermediate optical signals (λ_i).

Regarding claims 3, 12 and 16 as discussed above, Huber et al show that the intermediate optical signal (λ_i) and management signal (λ_{LO}) have different wavelength and differ from the claimed invention in that Huber et al do not specifically disclose that the plurality of intermediate optical signals are transmitted at a wavelength in the range

of 1520 nm to 1610 nm and each of the optical management signals are transmitted at substantially 1310 nm. However, it is well known to transmit optical signal and management signal (supervisory signal) at such wavelength range. Barry et al is cited to show such well known concept. In col. 4, lines 60-63, Barry et al disclose the use of wavelength in such range. Therefore, it would have been a matter of design choice to an artisan of ordinary skill in the art at the time the invention was made to provide the optical signal and management signal (supervisory signal) with such wavelength range. One of ordinary skill in the art would have been motivated to do such in order to reduce crosstalk between the management signal and the optical data signal.

Regarding claims 5 and 18, as discussed above, since the optical signal which comprised of intermediate optical signal (λ_i) and management signal or local oscillator wavelength (λ_{LO}) are transmitted in a multiplexed fashion and are independent of the other, therefore, it would have been obvious to an artisan of ordinary skill in the art to transmit the optical management signal in the absence of the intermediate optical signal. Since the optical management signal contains status and condition of nodes or transmission lines, therefore one of ordinary skill in the art would have been motivated to transmit optical management signal in the absence of the other optical signal in order to indicate alarm if faults occur.

Regarding claim 6, as shown in Fig. 1, Huber et al show a plurality of local oscillator wavelength (λ_{LO}) interposed between the demultiplexing component and the

plurality of optical fibers, where each of the management signal sources is operable to introduce local oscillator wavelength (λ_{LO}) into a corresponding optical fiber.

Regarding claim 7, in view of the rejection of claim 6, as shown in Fig. 1, Huber et al further show laser to generate the optical signal and a signal combiner to combine the generated signal with other optical signal (intermediate optical signal) from the demultiplexer (see col. 5, lines 19-35 of Huber et al).

Regarding claim 8, in view of the rejection of claim 6, as shown in Fig. 1, Huber et al further show receiver ($14_1 - 14_n$) to receive and separate the optical signal (locally generated) and the intermediate optical signal from the demultiplexer (see col. 5, lines 19-35 of Huber et al).

Regarding claim 9, Huber et al disclose optical transmission system, as shown in Fig. 1, comprising:

terminating an optical transport line (15) at a network element (24) residing in the optical transport network, the optical transport line operable to carry a local oscillator wavelength (λ_{LO}) and the optical system signal having a plurality of optical data signals (λ_i) embodied therein;

routing the plurality of optical signals (λ_i) amongst a plurality of optical fibers associated with the network element (Fig. 1, shows plurality of optical fiber connected to the demultiplexing component to carry the plurality of the optical signal); and

defining a local oscillator wavelength for each of the plurality of optical fibers.

Huber et al disclose that the optical fiber connected to the demultiplexer is operable to carry optical signal such as local oscillator signal and differ from the claimed

invention in that Huber et al do not specifically disclose that the fiber is operable to carry an optical management signal. However, in optical communication system it is well known that optical fiber carry optical management signal. Barry et al is cited to show such well known concept. In col. 8, lines 40-51, Barry et al teach the addition of optical management signal to the optical fiber. Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide optical management, as taught by Barry et al, to the optical fiber in place of the local oscillator wavelength. One of ordinary skill in the art would have been motivated to do such in order to monitor system's parameter.

Regarding claims 11 and 15, as discussed above, Huber et al disclose that a first local oscillator wavelength (λ_{LO}) further comprises selecting a wavelength that is spectrally separated from the wavelength (λ_i) range used to transmit the optical data signal.

Regarding claim 14, Huber et al disclose optical transmission system, as shown in Fig. 2, comprising:

a plurality of optical transport lines (15) interconnecting the plurality of network elements (24 and 28), each optical transport line operable to carry an optical system signal and the optical system signal having a plurality of optical data signals (λ_i) embodied therein; and

a plurality of optical fibers (Fig. 2, shows plurality of optical fiber connected to the demultiplexing component (20) to carry the plurality of the optical signal) associated with each network element, each of the optical fibers operable to carry one or more optical

data signals (λ_i) and a local oscillator wavelength (λ_{LO}) therein, the local oscillator wavelength being transmitted at a wavelength different than the wavelength range used to transmit the optical data signals through the corresponding optical fiber.

Huber et al disclose that the optical fiber connected to the demultiplexer is operable to carry optical signal such as local oscillator signal and differ from the claimed invention in that Huber et al do not specifically disclose that the fiber is operable to carry an optical management signal. However, in optical communication system it is well known that optical fiber carry optical management signal. Barry et al is cited to show such well known concept. In col. 8, lines 40-51, Barry et al teach the addition of optical management signal to the optical fiber. Therefore, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to provide optical management, as taught by Barry et al, to the optical fiber in place of the local oscillator wavelength. One of ordinary skill in the art would have been motivated to do such in order to monitor system's parameter.

Response to Arguments

3. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalzid Singh whose telephone number is (571) 272-3029. The examiner can normally be reached on Mon-Fri 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272--3022. The fax phone number for the organization where this application or proceeding is assigned is (571) 273- 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DS
August 3, 2005


JASON CHAN
SUPERVISOR, EXAMINER
TECHNOLOGY CENTER 2600